

# Introduction

## 1.0 INTRODUCTION

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Clean drinking water is essential to the citizens of Idaho. Since approximately 95 percent of Idaho's population uses groundwater for their water supply, its protection is vital to ensure the way of life that Idahoans have come to expect and enjoy.

If the groundwater source that supplies a drinking water well becomes contaminated, or otherwise rendered unusable, the costs of replacing the well could become very expensive, if an alternate location can be found at all! It is, therefore, sensible to prevent the contamination of wells and wellfields by implementing wellhead protection concepts.

The Amendments to the Safe Drinking Water Act of 1986 established a Wellhead Protection Program to prevent the contamination of wells and wellfields that contribute water to public water supply systems. This document is a plan that lays the groundwork for the Wellhead Protection Program for the State of Idaho. The policies for the plan were developed by the Idaho Division of Environmental Quality (IDEQ) and the Idaho Wellhead Protection Work Group.

In 1989, the Idaho Legislature enacted the Ground Water Quality Protection Act. This act formed the Ground Water Quality Council, tasked with developing a Ground Water Quality Plan. This plan went out for public comment in the summer of 1991 and was adopted by the Legislature in March 1992. This plan calls for developing a statewide Wellhead Protection Plan.

Wellhead protection requires a unique partnership between the different levels of government. The decision and responsibility for protecting a community's ground water supply rests substantially with the local community. The State of Idaho is responsible for the development and implementation of a state wellhead protection plan that meets the requirements of the Safe Drinking Water Act Amendments. The State intends to provide technical assistance and guidance to local governments and water system purveyors. Currently both state and federal funding for wellhead protection are limited, but sources will be sought to allow continued implementation of the plan.

The federal government is responsible for approving state wellhead protection plans and for providing technical assistance to states and local governments. In addition, the federal government has provided financial assistance to Idaho to develop and begin implementation of this plan and has provided grants to local governments for wellhead protection demonstration projects.

The purpose of the Idaho Wellhead Protection Plan is to describe how the State of Idaho intends to meet wellhead protection requirements of the Safe Drinking Water Act Amendments of 1986. From this document, guidance will be developed to assist local governments and water system purveyors in developing a wellhead protection program that fits local conditions and the needs of their particular water system. By working together, local and state governments can implement the programs necessary to protect ground water.

# Program Summary, Purpose and Development

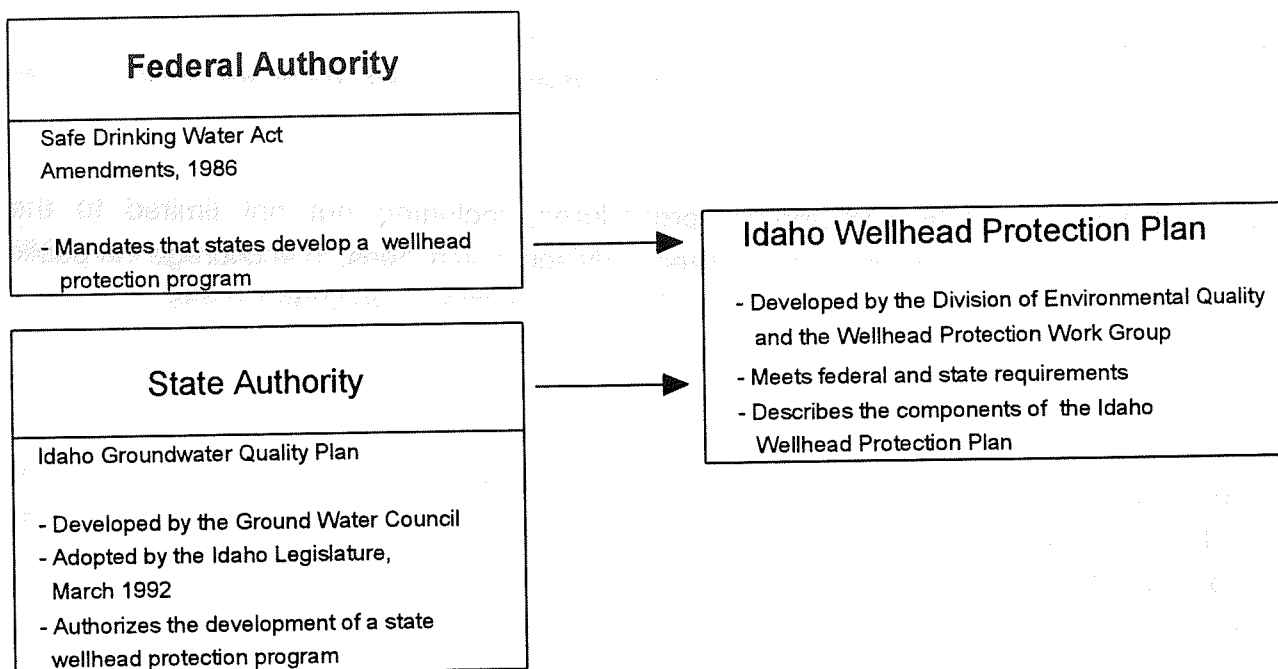
## 2.0 PROGRAM SUMMARY, PURPOSE AND DEVELOPMENT

### 2.1 PROGRAM SUMMARY AND PURPOSE

The purpose of the Idaho Wellhead Protection Program is to prevent the contamination of ground water that is used for drinking water. This includes the ground water which supplies existing drinking water wells and springs as well as the ground water around sites identified for future drinking water wells. This plan describes how Idaho will meet the requirements of the wellhead protection program as established by the Safe Drinking Water Act Amendments of 1986, Section 1428 and the requirements of the Idaho Ground Water Quality Plan relative to the Wellhead Protection Plan. Guidance will be developed from the policies of this plan which will assist local governments and water purveyors in implementing local wellhead protection programs.

The relationship of the Idaho Wellhead Protection Plan to the Safe Drinking Water Act Amendments of 1986 (Appendix A) and the Idaho Ground Water Quality Plan is illustrated in Figure 2.1. The Ground Water Quality Plan is a result of the Idaho Ground Water Protection Act, 1989 (Appendix B). Not only has the Idaho Wellhead Protection Plan been developed to meet the federal and state requirements, but it has also been developed because preventing the contamination of drinking water is a concept that the residents of Idaho support.

**Figure 2.1 Federal and State Authority for the Wellhead Protection Program**



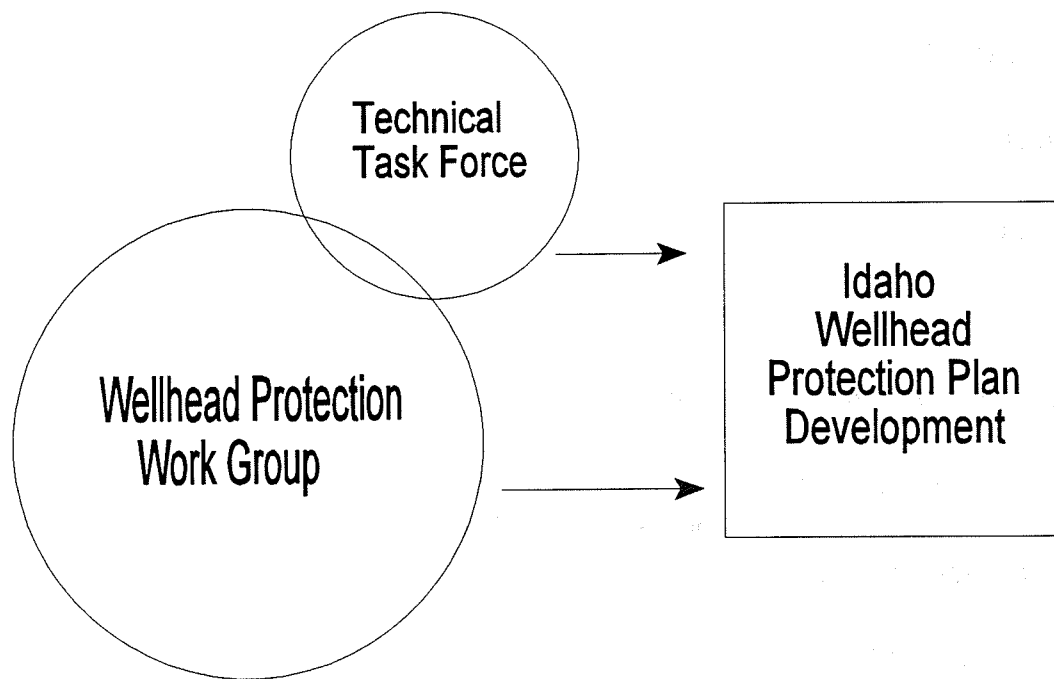
Section 1428 of the 1986 Safe Drinking Water Act Amendments requires that each state program shall address the following components:

- ◆ Specify the duties of state agencies, local governmental entities, and public water supply systems with respect to the development and implementation of programs required by this section;
- ◆ Determine the wellhead protection area for each wellhead, as defined in subsection (e) based on all reasonably available hydrogeologic information on ground water flow, recharge and discharge and other information the State deems necessary to adequately determine the wellhead protection area;
- ◆ Identify within each wellhead protection area all potential anthropogenic sources of contaminants which may have any adverse effect on the health of persons;
- ◆ Describe a program that contains, as appropriate, technical assistance, financial assistance, implementation of control measures, education, training, and demonstration projects to protect the water supply within wellhead protection areas from such contaminants;
- ◆ Include contingency plans for the location and provision of alternate drinking water supplies for each public water system in the event of well or wellfield contamination by such contaminants;
- ◆ Include a requirement that consideration be given to all potential sources of such contaminants within the expected wellhead area of a new water well which serves a public water supply system; and
- ◆ Establish public participation procedures, including but not limited to the establishment of technical and citizens advisory committees, to encourage the public to participate in developing the protection program for wellhead areas.

## **2.2 PROGRAM DEVELOPMENT**

Two citizens advisory groups participated in the development of the Idaho Wellhead Protection Plan and will continue to work, as needed, with IDEQ, throughout plan implementation. These two groups are the Wellhead Protection Work Group and the Technical Task Force (Figure 2.2).

**Figure 2.2 Citizen Advisory Groups that Developed the Idaho Wellhead Protection Plan**



### **2.2.1 Wellhead Protection Work Group**

The Wellhead Protection Work Group was composed of a wide spectrum of members representing water purveyors, irrigation users, cities, counties, citizens groups, building contractors, health districts, water well drillers, and state and federal agencies. A list of the official membership is in Appendix C.

The main function of the Wellhead Protection Work Group was to recommend policies and finalize technical decisions for the plan. The Wellhead Protection Work Group met on a regular basis between August 1991 and June 1992.

### **2.2.2 Technical Task Force**

The Technical Task Force was a subgroup of the Wellhead Protection Work Group and was composed of engineers, hydrologists, hydrogeologists, geologists, and environmental scientists.

The function of the Technical Task Force was to develop technical recommendations, which were then considered by the Wellhead Protection Work Group for final approval. These participants are noted with an asterisk on the list of official members included in Appendix C. This group met several times between June 1991 and March 1994.

### **2.2.3 Other Participants**

All meetings were open and there were several public participants who contributed significantly to the plan development. A list of these participants and their affiliations are in Appendix C.

## **2.3 GENERAL PROGRAM POLICIES**

### **2.3.1 Review Process for the State Plan**

IDEQ is responsible for reviewing, evaluating, and modifying the Idaho Wellhead Protection Plan. The Wellhead Protection Work Group and Technical Task Force will be updated on program progress and problems and will be consulted as needed.

#### **2.3.1.1 Rationale/Discussion**

Because the Wellhead Protection Program is developing, the plan that defines the program today may require changes or additions in the future. A process to review, evaluate, and modify the state plan is essential to address problems and concerns, as the need is demonstrated.

### **2.3.2 Program Type**

The State has chosen to develop a program that is **voluntary** for local governments and water suppliers to implement. A voluntary program means that all communities and water suppliers are encouraged, but not required to develop a local wellhead protection program.

This approach will best meet the goals of the Wellhead Protection Program in consideration of the following circumstances:

- ◆ No authority exists for a mandatory program;
- ◆ Legislative restrictions exist on the stringency of the Drinking Water Program;
- ◆ Planning and zoning authority is lacking in some parts of the State;
- ◆ Limited technical assistance and funding is available for communities;
- ◆ Limited funding is available for the program;



- ◆ A general need exists for ground water protection education;
- ◆ There is a wide diversity in system sizes and needs; and
- ◆ A large percentage of Idaho's population uses private drinking water systems.

In addition, this approach is consistent with the prevention policy of the Ground Water Quality Plan, 1992, which states that "Voluntary prevention programs that stress education and technical assistance are preferred. Regulatory programs should be developed when voluntary programs are not successful in preventing ground water contamination..."

### **2.3.2.1 Rationale/Discussion**

It was important to the Wellhead Protection Work Group to develop a program that was flexible and simple such that implementation at the local level could be attainable, the program could be administered with limited resources, and would emphasize education. This required that current and anticipated circumstances be evaluated so that appropriate and practical policies would be developed.

### **2.3.3 State Review and Certification Process for Local Plans**

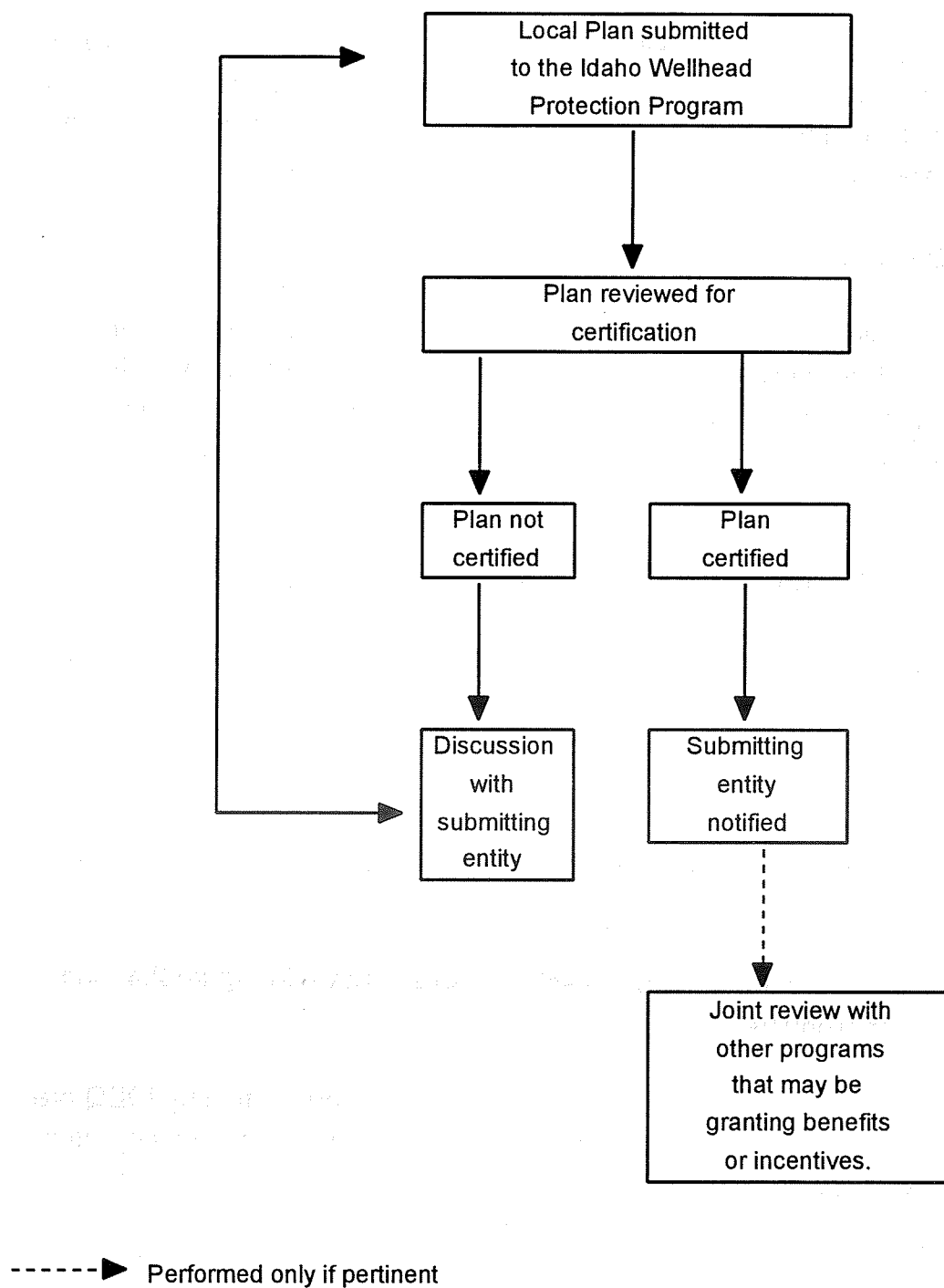
IDEQ will review local wellhead protection plans and program elements to the extent practical with available resources and staff. This process will include feedback and advice to the local entity submitting information. The review and certification process of wellhead protection plans is outlined in Figure 2.3.

Those plans which meet the following guidelines will be designated as "State Certified Plans."

- ◆ Address all elements of a wellhead protection plan as shown in Figure 2.4; and
- ◆ Are technically appropriate.

Entities with local wellhead protection plans that have received certification by IDEQ are not automatically ensured that drinking water monitoring waiver benefits or any other benefits will be issued. However, a certified local wellhead protection plan will expedite the evaluation of drinking water monitoring waiver requests. These monitoring waiver requests may be related to chemical compounds or may help a system comply with requirements under the Surface Water Treatment Rule if groundwater is found to be under the influence of surface water.

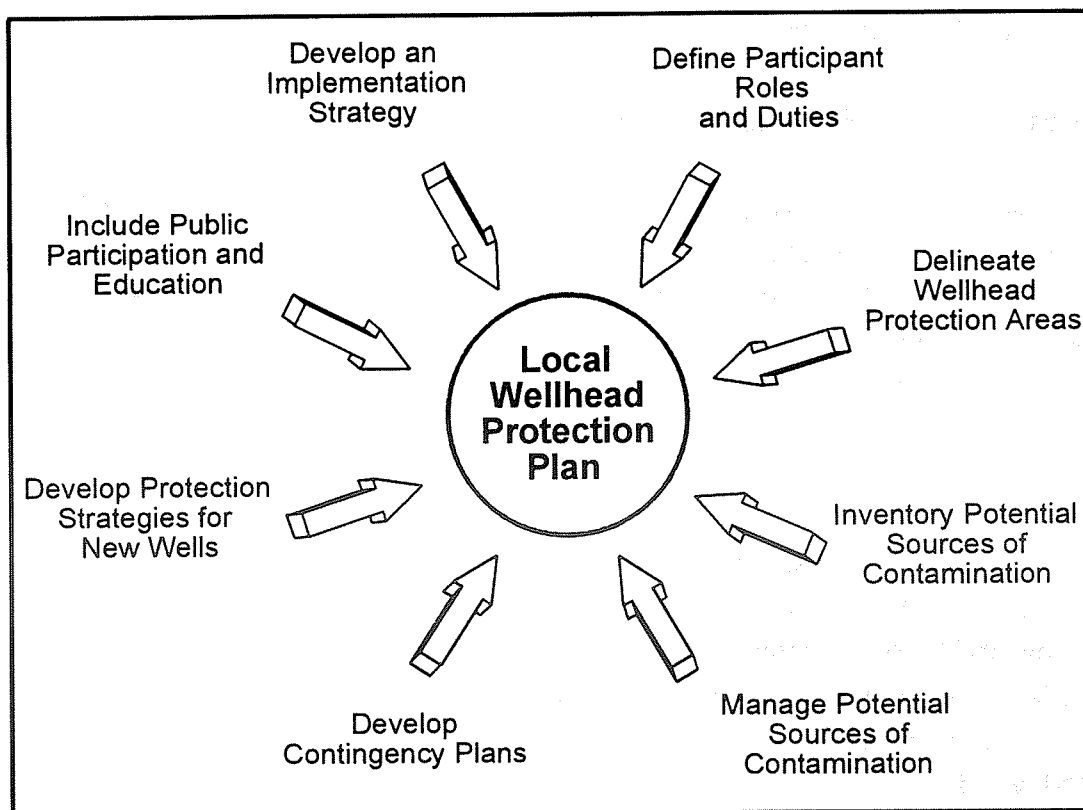
**Figure 2.3. Review and Certification Process of Wellhead Protection Plans**



Communities should notify IDEQ if there is an intent to use a certified wellhead protection program as a basis to apply for related drinking water monitoring waivers. IDEQ can assist in local wellhead protection program development and will coordinate program reviews to assure feedback and advice that is consistent with state drinking water requirements.

A community whose local wellhead protection plan has been certified will be notified by IDEQ in writing.

**Figure 2.4 Elements of a Certified Wellhead Protection Program**



### 2.3.3.1 Rationale/Discussion

Even though the Idaho Wellhead Protection Program is voluntary for local governments and water purveyors to implement, the Wellhead Protection Work Group decided, with the concurrence of several local community representatives, that reviews of local plans and program elements were desirable. The local community representatives indicated that they would like feedback and advice on their plans and programs.

Local plans will be certified by IDEQ to assure a minimum standard. State certification will assist in the coordination of the Wellhead Protection Program with other ground water related programs. However, the criteria to receive benefits from other programs will be established by the specific program issuing the benefit, not the Wellhead Protection Program. As these criteria are established, the information will be incorporated into the Idaho Wellhead Protection Program guidelines.

Although related benefits or incentives may be available, the primary benefit that any community will receive if they initiate and implement a local wellhead protection plan is preventing the contamination of their drinking water supply. With the prevention of drinking water contamination, communities can therefore avoid public health impacts, expensive remediation, and possible well replacement.

### **2.3.4 Phasing and/or Prioritizing Procedure**

Phasing in the program within the state and prioritizing implementation efforts will take into consideration the criteria listed below. These criteria will be taken into consideration if funding becomes available to assist local governments in implementing wellhead protection or if requests for technical assistance is much greater than can be provided. These criteria are listed in alphabetical order.

- ◆ Existing water quality
- ◆ Local support
- ◆ Need for technical assistance
- ◆ Percentage of ground water used for drinking water
- ◆ Vulnerability to contamination
- ◆ Water supplied by a Sole Source Aquifer
- ◆ Well construction
- ◆ Well yield

# Program Roles and Responsibilities

## **3.0 PROGRAM ROLES AND RESPONSIBILITIES**

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### **3.1 ROLES AND RESPONSIBILITIES FOR WELLHEAD PROTECTION**

This chapter defines the roles and responsibilities of federal and state agencies, local governmental entities, and public water supply systems with respect to the development and implementation of the Idaho Wellhead Protection Program. These participants, in addition to the public, represent major partners of a wellhead protection program. This chapter also provides guidance on the formation of community planning teams.

#### **3.1.1 Federal Agency Roles and Responsibilities**

The U. S. Environmental Protection Agency (EPA) is responsible for approving state plans. In addition, the EPA has provided funding for states to develop state wellhead protection programs and has provided grants to local governments.

The EPA has the authority to administer the Sole Source Aquifer Program as established by Section 1424(e) of the Safe Drinking Water Act. A sole source aquifer is an aquifer which supplies at least 50% of the drinking water consumed in the area overlying the aquifer. In addition, there are also no alternative drinking water source(s) which could physically, legally, and economically supply all those who depend upon the aquifer for drinking water.

Three aquifers in Idaho have been designated as sole source aquifers, they are:

- ◆ Rathdrum Prairie Aquifer;
- ◆ Lewiston Basin Aquifer; and
- ◆ Eastern Snake River Plain Aquifer.

As a result of the designation, federal financially assisted projects over these aquifers are subject to review by the EPA in an effort to protect ground water quality. Federal efforts will be coordinated with state and local ground water protection efforts.

#### **3.1.2 Agency Roles and Responsibilities**

The Governor of Idaho has designated the IDEQ as the lead agency responsible for the Idaho Wellhead Protection Program. The letter authorizing this responsibility is included in Appendix D.

The responsibilities of IDEQ are listed below.

- ◆ Perform the duties as the lead state agency for the Idaho Wellhead Protection Program (duties include the development, coordination, and implementation of the Idaho Wellhead Protection Plan).
- ◆ Review and certify local wellhead protection plans as established by the policy guidelines discussed in Chapter 2.
- ◆ Provide technical assistance to public water supply systems and/or local governments on all aspects of the plan.
- ◆ Update Basic I wellhead protection area delineations for the five major hydrogeologic settings when appropriate.
- ◆ Delineate non-refined wellhead protection areas in fractured granitic or metamorphic rocks, carbonates, and other consolidated rock on a case-by-case basis as requested.
- ◆ Prioritize local government requests for federal or state grants should funding be available.
- ◆ Prioritize wellhead protection efforts based on the criteria listed in Chapter 2.
- ◆ Coordinate the program with other state agencies that are responsible for implementing regulations addressing potential contaminant sources in wellhead protection areas. A discussion of these agencies and associated responsibilities is discussed under the section on General Ground Water Roles and Responsibilities and in Appendix E.
- ◆ Provide public education on ground water protection, prevention of ground water contamination, and ground water restoration, in coordination with other state programs and agencies.
- ◆ Develop guidance manuals, forms, and other necessary material.
- ◆ Provide a biennial status report to the EPA as required by the Safe Drinking Water Act Amendments, 1986. A tracking system will be developed to assist IDEQ in meeting this requirement and in assessing progress of the program.

### 3.1.3 Local Roles and Responsibilities

The decision and responsibility for the protection of community water supplies rests substantially with the local government. Local governments are authorized to protect ground water by the:

- ◆ Idaho State Constitution, which allows a city and/or county to provide ground water protection through mechanisms (zoning, land use ordinances, etc.) appropriate to their authority to address local concerns and needs.
- ◆ Comprehensive Land Use Planning Act (1975), Idaho Code 67-6501 through 67-6537, which provides the framework for existing local planning activities. This act establishes that the responsibility of the city and/or county, through comprehensive planning, is to protect the health, safety, and welfare of its citizens. Elements to be covered in a comprehensive plan include population, economic development, land use, natural resources, hazardous areas, public facilities, transportation, recreation, special areas housing, community design, and implementation.

Idaho Code 67-6537 specifically addresses the responsibility of local governing boards as it pertains to ground water quality in the area.

- ◆ Idaho Ground Water Protection Act of 1989; Idaho Ground Water Quality Plan, 1992, Policy IV-B, which states that all cities, counties and other political subdivisions of the state shall integrate the Ground Water Quality Plan in their existing programs and planning activities, and are also authorized and encouraged to implement ground water quality protection policies within their respective jurisdictions.

Local governments should have the following lead responsibilities, but these responsibilities should be in partnership with the water purveyor:

- ◆ Develop a local wellhead protection plan. It is recommended that this plan be incorporated in the local comprehensive plan;
- ◆ Coordinate the local roles and responsibilities;
- ◆ Inventory potential sources of contamination in wellhead protection areas;



- ◆ Develop a management strategy for potential sources of contamination within wellhead protection areas;
- ◆ Plan and protect future wellhead protection areas for new wells;
- ◆ Assure public participation during the development and implementation of a local wellhead protection plan;
- ◆ Develop and coordinate an implementation strategy; and
- ◆ Integrate wellhead protection concepts with other existing and future land use ordinances.

#### **3.1.4 Water Purveyor Roles and Responsibilities**

Water purveyors have the following lead responsibilities, but these responsibilities should be in partnership with the local government.

- ◆ Delineate wellhead protection areas if the community chooses the Basic II or refined delineation approach approached in Chapter 4.
- ◆ Develop contingency plans for the location and provision of alternate drinking water supplies in the event of loss of a well(s), wellfield(s), or spring(s).
- ◆ Plan the locations of future water wells.

### **3.2 GENERAL GROUND WATER ROLES AND RESPONSIBILITIES**

#### **3.2.1 Government Agencies**

A summary of the authorities of federal, state, and local government entities to control potential ground water contamination sources is given in Appendix E. This summary was prepared by IDEQ in cooperation with the Idaho Department of Agriculture (IDA) and the Idaho Department of Water Resources (IDWR), at the direction of the Ground Water Council for the development of the Idaho Ground Water Quality Plan.

### **3.2.2 Other Organizations**

A wellhead protection program may also involve several non-regulatory agencies or organizations such as research groups, citizen groups, and community assistance groups.

Research groups will be valuable sources of hydrogeological and geological information in the state. This information will assist in the wellhead protection area delineation component of the program.

Many citizen groups are very involved in public education on ground water. Support for the wellhead protection program will occur only if the public understands what ground water is, how it becomes contaminated, how it can be protected, and what the consequences can be if the drinking water supply becomes contaminated.

Community assistance groups can offer various forms of services that may be applicable to local wellhead protection implementation.

## **3.3 COMMUNITY PLANNING TEAMS**

To be successful, a wellhead protection program needs the cooperative efforts of people within the community. It will need to have the input and ownership of people who make decisions that affect the community, are interested in ground water, and/or will be affected by the program. To satisfy these needs, a community planning team should be established to facilitate development of a local wellhead protection program. The community planning team will be responsible for developing a local wellhead protection plan, initiating implementation efforts, and reviewing and revising the local plan as needed.

Due to the fact that many wellhead protection areas will lie, at least in part, outside of the jurisdiction of the community initiating the wellhead protection plan, interjurisdictional cooperation is often essential for effective wellhead protection. To help resolve multi-jurisdictional issues, the community planning team should include representatives from those jurisdictions with land use controls over the wellhead protection areas. In addition, many public water systems are owned or operated by private entities with little or no jurisdiction over the wellhead protection area. A community planning team is essential under such conditions.

The exact makeup of a community planning team will vary depending on the nature of the community. Some communities have included at least the following people or organization representatives on their teams.

- ◆ Public works director
- ◆ Mayor or city administrator
- ◆ Planning and zoning representatives (city and county)
- ◆ Business community
- ◆ State agencies and organizations involved with ground water quality protection
- ◆ Technical experts in hydrogeology, hydrology, or geology
- ◆ Home owner associations (with community wells)
- ◆ General public

You may also need to include members who represent significant interests within your community such as someone from the agricultural community or a local tribal council.